UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/066,039	01/31/2002	Rade Petrovic	SOL-166	3932

			EXAMINER
20028	7590	05/04/2006	LEMMA, SAMSON B

Lipsitz & McAllister, LLC
755 MAIN STREET
MONROE, CT 06468

ART UNIT	PAPER NUMBER
2132	

DATE MAILED: 05/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	10/066,039	PETROVIC, RADE
	Examiner	Art Unit	
	Samson B. Lemma	2132	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>09 February 2006</u>.

2a)☒ This action is **FINAL.**   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-72* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *33-36 and 69-72* is/are allowed.

6)☒ Claim(s) *1-8,15,17-21,23-25,37-44,51,53-57 and 59-61* is/are rejected.

7)☒ Claim(s) *9-14, 16, 22, 26-32, 45-50, 52, 58 and 62-68* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

U.S. Patent and Trademark Office

PTOL-326 (Rev. 7-05)   Office Action Summary   Part of Paper No./Mail Date 04252006

DETAILED ACTION

1.   This office action is in reply to an amendment filed on February 09, 2006.

Claims **11-13, 28-30, 33, 36, 47-49, 64-66, 69** and **72** are amended.

Claims 1-72 are pending. Independent Claims 36 and 72 have previously been

allowed.

Response to Argument

2.   Applicant's remark/arguments filed on February 09, 2006 referring to the

independent **claims 1, 17, 23, 35, 37 and 59 have be**en fully considered but

they are not persuasive. However, Applicant's remark/arguments filed

on February 09, 2006 referring to the amended **independent claims 33 and 69**

have been fully considered and are found to be persuasive.

Applicant's first argument is regarding the independent claims 1 and 37.

Applicant's argued that some of the limitation in the independent claim 1 and 37

is not suggested by **the reference** on the record, namely Xu.

Applicant argued that the limitation recited in the independent claims 1 and 37

such as "selecting a code to represent the data to be embedded based on an

analysis of the host signal" is not disclosed by the reference on the record/Xu.

Examiner disagrees with the above argument.

In response to the above argument by the applicant, the Examiner point out the

Xu discloses on column 9, lines 39-48, discloses the following. "FIG. 8 depicts

the training process for an adaptive embedding model. Adaptive embedding, or

content-sensitive embedding, **embeds watermarks differently for different**

types of audio signals. To do so, a training process is **run for each category of**

audio signal to define embedding schemes that are well suited to the

particular category or class of audio signal. The training process analyses

an audio signal 800 to find an optimal way to classify audio frames into

classes and then design embedding schemes for each of those classes." And

this meets the limitation of selecting a code to represent the data to be

embedded based on an analysis of the host signal. Furthermore Xu on column

10, lines 17-21 and column 2, lines 23-33 discloses similar limitation that meets

the limitation of selecting a code to represent the data to be embedded based on

an analysis of the host signal. Furthermore Xu on column 7, lines 29-30

discloses the following. "Each embedding scheme is tailored to a class of the

audio signal." And this also meets the limitation of electing a code ·to represent

the data to be embedded based on an analysis of the host signal.

Applicant's second argument is regarding the independent claims 17 and

53. Applicant argued that some of the limitation in the independent claim 17

and 53 is not suggested by **the reference** on the record, namely Xu.

Applicant argued that the limitation recited in the independent claims 17 and 53

such as "scrambling the data to be embedded with each code from a code set to

provide a plurality of scrambled data sequences" and "the limitation of

comparing each of said plurality of scrambled data sequence to the host signal

and selecting a scrambled sequence which is best match to said host signal for

embedding into the host signal" are not disclosed by the reference on the record

namely Xu.

Examiner disagrees with the above argument.

In response to the above argument by the applicant, the Examiner point out the

Xu discloses the following

- **Providing a host signal**[figure 1, ref. Num "100"];

- **Providing data to be embedded in the host signal** [figure 1, ref. Num
  "102"];

- **Scrambling said data with each code from a code set to provide a plurality of scrambled data sequences;** [figure 1, ref. Num "120"] and Xu on column 7, lines 30-35 further discloses the following. "Using the selected embedding scheme, the watermark is embedded into the audio frame using a multiple-echo hopping process. This produces a particular arrangement of echoes that are to be embedded in the digital audio signal 100 **dependent upon the encrypted watermark produced by the module 120" and this meets the limitation of** comparing each scrambled data sequence to said host signal and selecting a scrambled sequence which is a best match to said host signal.

Applicant's third argument is regarding the independent claims 23 and 59.

Applicant argument is the same as that of claims 1 and 37.

Examiner disagrees with the above argument and indicate that the response given to claims 1 and 37 is also applicable to this argument.

Applicant's forth argument is regarding the amended independent claims 33 and 69.

This argument is found to be persuasive. Thus claims **33 and 69** are allowed.

Claim Rejections - 35 USC § 102

3.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

4.   <u>**Claims 1-8, 15, 17-21, 23-25, 37-44, 51, 53-57 and 59-61**</u> are rejected under

35 U.S.C. 102(a) as being anticipated by **Xu et al** (hereinafter referred as **Xu**)

(U.S. Patent Number 6, 674,861B1) with European publication number:

WoO0/39955) having a **(publication date: July 6, 2000)**

5.   <u>**As per claims 1 and 37**</u> **Xu discloses a method for embedding watermarking**

information [Abstract, first two lines] (A method, an apparatus and a computer

program product for adaptive, content-based watermark embedding of a digital audio

signal (100) are disclosed)**, comprising:**

- **Providing a host signal** [figure 1, ref. Num "100"];

- **Providing data to be embedded in the host signal** [figure 1, ref. Num "102"];

- **Associating distinct input data strings of said data with distinct code sets;** [Column 8, lines 1-3] (a bit in the watermark sequence/input data to be embedded in the host signal is encoded/associated as multiple echoes/code sets while each audio frame/host signal is divided into multiple sub-frames)

- **Selecting codes from the associated code sets to represent said input data strings based on an analysis of the host signal;**[column 9, lines 39- 48; column 7, lines 29-30; column 10, lines 17-19;]

- **Embedding said codes into the host signal to provide a watermarked signal.** [column 10, lines 19-21; column 7, lines 30-32]

6.   <u>As per claims 17,19, 53 and 55</u> **Xu discloses a method for embedding watermarking information** [Abstract, first two lines] (In a watermarking system, an embedder embeds one of several alternative watermark patterns that represent the source message using side information to improve robustness), **comprising:**

- **Providing a host signal**[figure 1, ref. Num "100"];

- **Providing data to be embedded in the host signal** [figure 1, ref. Num "102"];

- **Scrambling said data with each code from a code set to provide a plurality of scrambled data sequences;** [figure 1, ref. Num "120"]

- **Comparing each scrambled data sequence to said host signal and selecting a scrambled sequence which is a best match to said host signal;** [column 7, lines 30-35] (Xu on column 7, lines 30-35 further discloses the following. "Using the selected embedding scheme, the watermark is embedded into the audio frame using a multiple-echo hopping process. This produces a particular arrangement of echoes that are to be embedded in the digital audio signal 100 **dependent upon the encrypted watermark produced by the module 120" and this meets the limitation of** comparing each scrambled data sequence to said host signal and selecting a scrambled sequence which is a best match to said host signal.) and

- **Embedding said best matched scrambled data sequence into the host signal to provide a watermarked signal.** [Column 10, lines 19-21; column 7, lines 30-32 and figure 1, ref. Num "110"]

7.   **As per claims 23 and 59 Xu discloses a method for recovering embedded watermarking data from a watermarked signal,[figure 4, column 10, lines 25]** (Figure 4, illustrates a process of watermark extraction.) **comprising the steps of**

- **Receiving said watermarked signal;** [Figure 4, ref. Num "110"]

- **Extracting embedded codes from said watermarked signal;[Column 10, lines 43-44] and interpreting said extracted codes to recover said watermarking data;[figure 4, ref. Num "440"]**

- **Wherein each code represents an input string of said watermarking data, each code being selected from a code set associated with said input data string based on an analysis of a host signal to be watermarked.**
  [Column 9, lines 39- 48; column 7, lines 29-30; column 10, lines 17-19 and figure 4]

8.   **As per claims 2-3, 24, 38-39 and 60 Xu discloses a method for embedding watermarking information as applied to claims above. Furthermore Xu discloses the method wherein** said associating step is based on a predefined mapping. [Figure 2, ref. Num "210"]

9.   **As per claims 4 and 40 Xu discloses a method for embedding watermarking information as applied to claims above. Furthermore Xu discloses the method, further comprising: transmitting said watermarked signal to a decoder;**[Figure 4, ref. Num "110"] **extracting said embedded codes from said watermarked signal; and interpreting said codes to recover said data.** [Figure 4]

10.   **As per claims 5, 25, 41 and 61** Xu discloses a method for embedding watermarking information as applied to claims above. Furthermore Xu discloses the method, wherein said interpreting step comprises a many-to-one mapping of an extracted code to the associated data string. [Column 9, lines 39- 48; column 7, lines 29-30; column 10, lines 17-19]

11.   **As per claims 6-7, 21, 42-43 and 57** Xu discloses a method for embedding watermarking information as applied to claims above. Furthermore Xu discloses the method, further comprising: **segmenting the data into said input strings**. [Figure 1, ref. Num "140"]

12.   **As per claims 8 and 44** Xu discloses a method for embedding watermarking information as applied to claims above. Furthermore Xu discloses the method, further comprising: **generating for each input data string a code set containing said codes**. [Column 8, lines 7-11]

13.   **As per claims 15 and 51** Xu discloses a method for embedding watermarking information as applied to claims above. Furthermore Xu discloses the method wherein said input strings are mapped to codes with the objective of minimizing distortion of the host signal. [Column 5, lines 43-54]

14.   **As per claim 18 and 54** Xu discloses a method for embedding watermarking information as applied to claims above. Furthermore Xu discloses the method wherein said scrambling step comprises an XOR operation between the data and each code of the code set. [figure 1, ref. Num "120" and ref. Num "160] (Encryption meets the recitation of an "XOR" operation.)

15.   **As per claim 20 and 56   Xu discloses a method for embedding watermarking information as applied to claims above. Furthermore Xu discloses the method wherein said generating of a plurality of scrambled data sequences at the decoder comprises scrambling said data with each code from a code set to provide a plurality of scrambled data sequences at said decoder. [figure 1, ref. Num "120" and figure 4, ref. Num "108"]**

Allowable Subject Matter

16.   **Claims 9-14, 16, 22, 26-32, 45-50, 52 ,58 and 62-68** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

17.   Independent **Claims 33 and 69 are allowed. The dependent claims 34-35 and 70-71 which are dependent on the independent claim 33 and 69 respectively** being further limiting to the independent claims, definite and enabled by the specification are also allowed.

18.   Independent **claims 36 and 72** have previously been allowed.

Conclusion

19. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

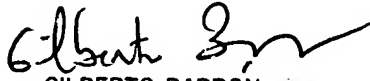than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Samson B Lemma whose telephone number is 571-

2723806. The examiner can normally be reached on Monday-Friday (8:00 am---4: 30

pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, BARRON JR GILBERTO can be reached on 571-272-3799. The fax phone

number for the organization where this application or proceeding is assigned is 703-

872-9306.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published

applications may be obtained from either Private PAIR or Public PAIR. Status

information for unpublished applications is available through Private PAIR only. For

more information about the PAIR system, see http://pair-direct.uspto.gov. Should you

have questions on access to the Private PAIR system, contact the Electronic Business

Center (EBC) at 866-217-9197 (toll-free).

SAMSON LEMMA
S.L.
04/25/2006

GILBERTO BARRON JR
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100